

## ABSTRACT

### SPLIT WAVE METHOD AND APPARATUS FOR TRANSMITTING DATA IN LONG-HAUL OPTICAL FIBER SYSTEMS

- 5 A method is provided for transmitting optical signals in an optical communication system. An optical input is received that has a first data rate and is split into a plurality of sub-wavelengths. The plurality of sub-wavelengths are spaced sufficiently close in wavelength to provide a spectral efficiency of all the sub-wavelengths that is close to or greater than
- 10 a spectral efficiency of the optical input. The plurality of sub-wavelengths are then combined.

10046139-010902  
200070-6279001